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AUTHOR	Harrison, Colin
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ABSTRACT

In 1998, Roger Beard of the University of Leeds wrote an account of the research underpinning the emerging National Literacy Strategy (NLS). Since Beard published his review, there have been developments both in terms of age groups covered and within the field of literacy research. This document attempts a fresh review of the relationship between the literacy practices advocated and what is known from research. Notably, it develops the argument that the teaching approaches advocated by both the primary and secondary Strategies are strongly supported by the findings from research, and that in the areas where this is not so, this is because the research finding are inconclusive or the research has not been done. After an executive summary, sections of the document are: (1) Rationale--the Need for This Review; (2) The Challenge of Meeting the Demand for Evidence-based Policy; (3) Staff Development--Has the Strategy Got it Right?; (4) The Teaching Sequence: Has the Strategy Got It Right?; (5) Reading--Does Research Support the Strategy?; (6) Writing and Spelling--Has the Strategy Got It Right?; (7) Speaking and Listening--Does Research Support the Strategy?; (8) Helping Pupils Who Have Fallen Behind--Does Research Support the Strategy?; and (9) Coda. In this document, sources which are suggested as follow-ups are cited in boxes. (Contains 69 references.) (PM)

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National Strategy

Information

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Roots and Research

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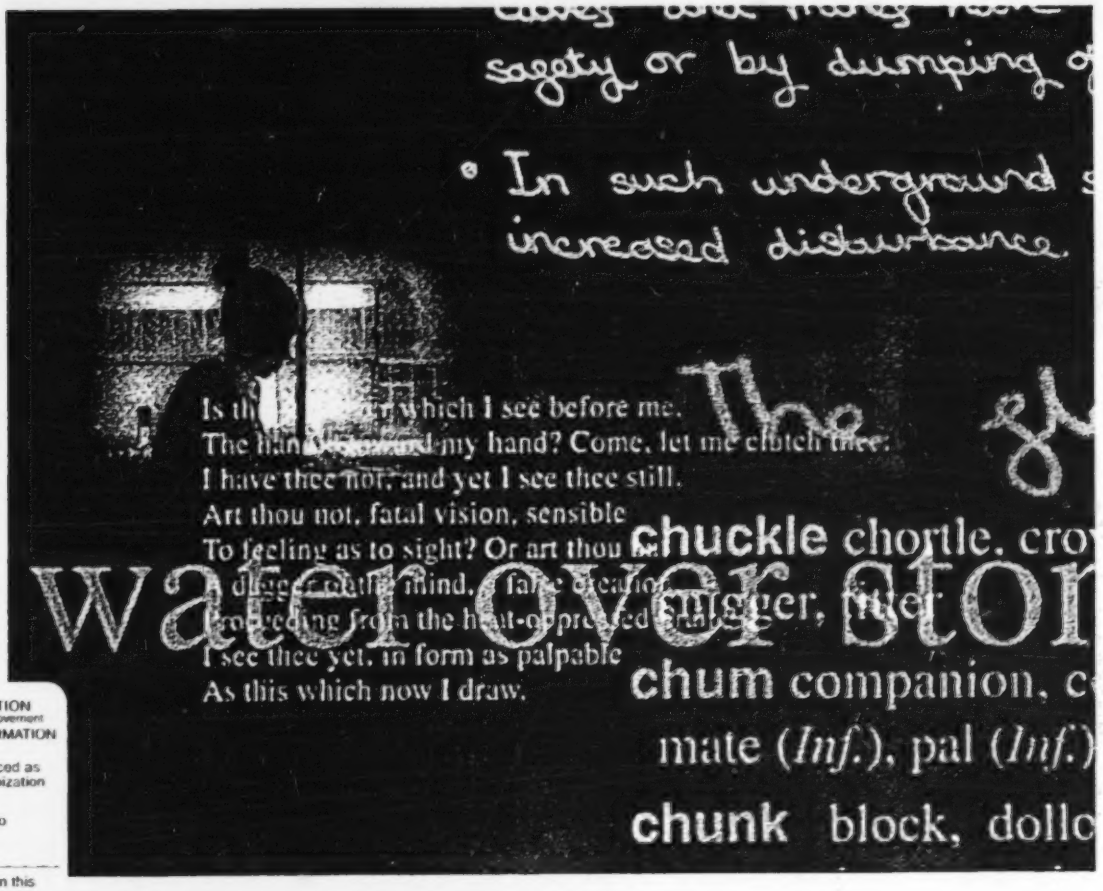
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increased disturbance.
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I have thee not, and yet I see thee still.
Art thou not, fatal vision, sensible
To feeling as to sight? Or art thou
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I see thee yet, in form as palpable
As this which now I draw.
chum companion,
mate (Inf.), pal (Inf.)
chunk block, dollo

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Key Stage 3
National Strategy

Key Stage 3 English
Roots and Research

Colin Harrison
University of Nottingham School of Education

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education and skills
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EXECUTIVE SUMMARY

1 Rationale – the need for this review

- Since Beard's (1998) account of the research underpinning the National Literacy Strategy (NLS), there have been developments both in terms of the age groups covered and within the field of literacy research that make it timely to attempt a fresh review which pays particular attention to the English Strand of the Key Stage 3 Strategy.

2 The challenge of meeting the demand for evidence-based policy

- Understanding how literacy develops is a complex issue, and research findings may not provide simple answers.
- We do not yet have a unified theory of language learning.

3 Staff development – has the Strategy got it right?

- Research has shown that there is a strong relationship between teacher education and literacy improvement.
- Successful schools that were 'beating the odds' had:
  - high expectations of pupils;
  - teamwork across the school, with common training and regular meetings;
  - change occurring over more than one year;
  - coherent literacy interventions across all age groups;
  - ongoing staff development.

4 The teaching sequence – has the Strategy got it right?

- Broadly speaking, the research perspective on the teaching sequence is unequivocally positive; there are dozens of studies that support the five elements of the proposed teaching sequence:
  - Identification of prior knowledge
  - Teacher demonstration of process
  - Shared exploration through activity
  - Scaffolded pupil application of new learning
  - Consolidation through discussion/activity

5 Reading – does research support the Strategy?

- Researchers agree that the phonics strategy is more or less right, and in the small number of areas of minor disagreement, there isn't really conclusive evidence either way.
- Accurate, rapid word recognition is really important in fluent reading, but it is not how we begin, nor is it a goal in its own right. The *purpose* of reading is to gain meaning, not simply to recognise words rapidly.
- There is a fairly strong research rationale for teaching vocabulary, since (for older readers, at least) vocabulary knowledge is the best predictor of reading comprehension.
- Reading development:
  - children develop fluency if they do lots of independent reading, but comprehension is less likely to develop spontaneously;
  - class teaching of strategies for approaching challenging texts is valuable;
  - reciprocal teaching, with the pupil taking the role of the teacher in peer-led discussions of texts, is valuable;
  - there are such things as higher-order reading skills but these start early, and should be taught in all key stages;
  - critical literacy is just as important for weaker as for stronger readers.

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6 *Writing and spelling – has the Strategy got it right?*

- There is general agreement among researchers that very few children spontaneously develop into good spellers. So the broad emphasis within the Strategy on giving attention to spelling is supported by research, as is the chief teaching strategy, namely to use scaffolded inductive teaching.
- The teaching of grammar – it is difficult to link the findings from research in this area to the Strategy's recommendations for pedagogy. One reason for this, however, is a gap between the type of grammar teaching that has typically been researched (i.e. grammar taught as separate decontextualised knowledge) and the approach to grammar teaching within the Strategy.
- The three main approaches to teaching writing are:
  - presentational (teacher-led; emphasises skills and the correction of errors);
  - natural process (student-led; emphasises drafting and pupil engagement);
  - environmental (emphasises teacher-student interaction, with structure and genre learned in an integrated way, through task-specific processes).
- This review concludes that it is wiser to combine these than to stress one approach to the exclusion of the other two.

7 *Speaking and listening – does research support the Strategy?*

- From a research point of view, a major emphasis on Speaking and Listening in literacy development is absolutely warranted.
- Equally, the incorporation of speaking and listening into text level objectives makes good sense in relation to the arguments about the importance of integrating language modes, and developing a coherent literacy curriculum.
- Teachers believe that they give prominence to discussion, but classroom research may not support this belief.

8 *Helping pupils who have fallen behind – does research support the Strategy?*

- The Key Stage 3 Literacy Progress Units 'critical features' list may appear initially to be a rather fragmented approach to literacy improvement.
- But the Literacy Progress Units themselves seem to hold out more promise, since they do have higher-level goals (e.g. organising and shaping writing effectively; getting pupils applying a knowledge of phonics in their own writing; having a repertoire of sentence structures and using them effectively) that are supported by research.

9 *Coda*

- Changing literacy standards is not a skills issue: it is a systems issue.

1 RATIONALE – THE NEED FOR THIS REVIEW

In 1998, Roger Beard of the University of Leeds wrote an account of the research underpinning the emerging National Literacy Strategy (NLS). His paper is widely regarded as having performed the very useful function of helping to explain why the Strategy had the emphases that it did, and also of pointing out the ways in which the rationale and pedagogy associated with the Strategy were, broadly speaking, in harmony with the findings from current research.

> The most widely cited version of Roger Beard's research review is the following:
> Beard, Roger (1998) *National Literacy Strategy: Review of Research and other Related Evidence.* London: Department for Employment and Education.

Since Beard published his review, there have been developments both in terms of the age groups covered and within the field of literacy research, which make it timely to attempt a fresh review of the relationship between the literacy practices advocated, and what we know, or think we know, from research. In this document, the sources cited in boxes are ones that might be most worth following up, in order to locate additional evidence or a more complete argument. Where possible, web-based references have been given, in order to increase accessibility. If a web address has changed, typing a key phrase from the title into a web browser can often prove successful in locating the cited document, or an updated version of it.

I would add that although this review was commissioned by the Key Stage 3 strategy team, I have been given a completely free hand in choosing what research to include or omit, and there has been no revision of the text to keep what I say 'on message'. The argument I develop is that the teaching approaches advocated by both the primary and secondary Strategies are broadly speaking strongly supported by the findings from research, and that in the areas where this is not so, this is because the research findings are inconclusive or the necessary research simply has not yet been done. I do not expect every reader to share the views I have on which research findings are the most relevant, nor to agree with my interpretation of them, but I do ask readers to accept that this review of research has been an independent one, whose goal has been to make accessible to teachers and other professionals some of the key findings from research, particularly new research into literacy, and to offer some suggestions as to how these findings might be followed up by those who might wish to do so.

As well as including more recent research, this review has also sought evidence that is particularly relevant to the Key Stage 3 National Strategy and the *Framework for teaching English in Years 7, 8 and 9.* But this review has not ignored research into literacy teaching in Key Stages 1 and 2, and there are two reasons for this. First, many more research studies have been carried out in the literacy field at Key Stages 1 and 2 than at Key Stage 3, though many of the findings of these studies have relevance for the Key Stage 3 Strategy. Second, feedback from secondary English teachers who read an early draft of this review suggested that many secondary teachers would value some information on current theories of the reading process, and their application to our understanding of how children acquire literacy.

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2 THE CHALLENGE OF MEETING THE DEMAND FOR EVIDENCE-BASED POLICY

One of the most striking changes in the present government's approach to education has been its determination to make use of research, as this comment from a senior government advisor makes clear:

'Any government, and certainly any government which is trying to achieve change, needs a very clear view of what's happening in its society... Scientific knowledge in all its forms is now much more explicitly part of the governing process and there's a very important reason for that. We have seen a reducing role for ideology; the conviction politics of both the 70's and the 80's has gone into decline and ... knowledge about what works has, to some extent, filled that space and therefore there is more of a demand for objective and neutral analysis... ' Geoff Mulgan (Head of the Performance and Innovation Unit in the Cabinet Office) Radio 4 programme *Unreliable Evidence?* Broadcast Date: 26.07.01.

> The BBC has made available a transcript of this programme, in which government advisers and research council directors discuss the potential of research for informing government policy, and particularly social policy. Source: BBC Radio 4 Current Affairs. *Analysis: Unreliable Evidence?* Transcript of a recorded documentary. Presenter: David Walker; Producer: Nick Booth; Editor: Nicola Meyrick. Broadcast Date: 26.07.01 Quotation from transcript downloaded on 5/8/01 from: http://news.bbc.co.uk/hi/english/audiovideo/programmes/analysis/newsid_1470000/1470519.stm

Most teachers and most researchers regard it as laudable that the current climate in the UK is one in which the government is keen to underpin its social and economic initiatives by research into 'what works'. This document is an attempt to provide some guidance for teachers on what we know, and to offer some leads for those who might wish to follow up and read in more detail about the research that underpins the pedagogy of literacy, particularly that relating to the English Strand of the Key Stage 3 National Strategy.

It is very important to acknowledge from the outset, however, that while the present government is turning to researchers for 'objective and neutral analysis', in the case of literacy research, researchers cannot always deliver the answers that policy makers might wish to have. There are two main reasons for this:

- **First, understanding how literacy develops is a complex issue, and research findings may not provide simple answers.**

Speaking, listening, reading and writing are among the most complex cognitive processes managed by the human brain. We have a far from complete understanding of how they operate, and how they develop. An important implication in this context comes from the research in cognitive psychology of Rand Spiro et al. (1994), who showed that if we are to increase our knowledge in a complex domain, we need to have strategies which include living with complexity and tolerating some ambiguity, at least in the short or medium term. Spiro's research showed that learning in complex domains was much more likely to occur when the learner:

- sought to avoid oversimplification;
- valued multiple representations;
- valued case studies;
- defined meaning as use;
- preferred flexible schemata;
- sought interconnectedness;
- valued human support systems to help deal with complexity.

The problem in a complex domain, therefore, and particularly in one which is not fully defined, is that you cannot advance knowledge if you oversimplify, if you don't value case studies, and if you don't connect up the elements. Or to put it the other way round: if you want to have the 'joined-up thinking' which seems to be so fashionable today, you need to pay the price of accepting that there may not be simple answers to complex questions. This is a crucial point for us to bear in mind if we are asked by those in government (or indeed by headteachers or governors) for clear, unequivocal, bullet-point summaries of research findings. There is a danger that when science meets policy, rationality gives way to rhetoric. In this context, researchers have a moral responsibility to represent their findings as clearly as possible, but without being simplistic.

> Rand Spiro's work in learning theory has applications that are profoundly relevant for English teachers. His somewhat dauntingly titled papers on cognitive flexibility theory and the development of advanced knowledge acquisition in ill-defined domains have great potential for explaining how learning occurs when a child is surfing the Internet, for example, or when a student is writing an essay working from a pile of a dozen reference books. The easiest way to locate material on *cognitive flexibility theory* is via a web search.

- **Second, we do not yet have a unified theory of language learning.**

The combined strategies for literacy development have a formidable range of pedagogic goals, from the development of phonological awareness in the first term of infant schooling to the development of higher-order reading strategies and study skills at Key Stage 3. But the definition of literacy encompassed by the combined strategies is not confined to reading. It also covers the teaching of writing, spelling, speaking and listening, literacy across the curriculum, and support for pupils who are working below expectations.

The research literature underpinning all these fields is vast, but this is not the only problem we face in seeking to establish the research-based credentials underpinning the Strategy. The other problem is that there has been fragmentation in these fields, which has resulted in the development of mutually exclusive theoretical and experimental frameworks. This makes it almost impossible to construct a unified theory of language learning against which to test the empirical data.

> In a powerfully-argued position paper, Linda Flower (cited in Bailey, 2002) has anatomised the problem of methodological fragmentation in the field of literacy. In a career of more than thirty years, during which she has come to be regarded as one of the foremost researchers in the field of writing, Flower has moved increasingly towards a position that seeks to integrate social with cognitive research perspectives. The essay is called *Literate Acts*, and forms the opening chapter of her book *The Construction of Negotiated Meaning* (1994; Southern Illinois University Press).

As Linda Flower puts it:

> A literate act … is an attempt to create meaning; and in doing so, it reflects – is itself shaped by – literate, social, and cultural practices … At the same time, literacy is also a personal, intentional action, an attempt to understand, express, explore, communicate, or influence. (Flower, 1994, p. 9)

Flower argues that what is needed is a theory which integrates cognitive and social psychological perspectives. And integrating the more global perspectives of purposes, goals and possible reader responses, suggests Flower, is not to pander to the currently fashionable penchant for sociological analysis, it is crucial to understanding what expert writers do that novice writers do not. Novice readers and writers tend to concentrate on surface content and formal text features, while experts attempt to interpret a text by transforming it into a meaningful, integrated social transaction. To take only a cognitive perspective, and to focus on teaching basic skills, therefore, and to ignore the wider rhetorical and social purposes of text, is to deny to the novice models of how to behave like an expert.

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It is not a trivial matter to build an integrated theory that links cognitive and social research perspectives. Traditionally, research into cognitive processes is high status, for the sound reason that its findings are, in principle, rigorous and replicable, and are held to be generalisable to other contexts. By contrast, the case studies generated from sociological perspectives may have immediacy and compellingness, but they are reckoned to lack generalisability, and therefore are often regarded as less valuable by policy makers than experimental research findings.

One final problem we face in relation to reviewing literacy research is the following: basic language skills and processes are not easy to research, but they are at least researchable, using the tools and methods currently available. By contrast, some of the more important goals of education – for example that students should develop in authentic learning contexts metacognitive awareness, strategic thinking and reflective learning capabilities – are much more difficult to research, since they have their roots in the sociocognitive domain, and involve cognitive processes that are difficult to capture and learning goals which may not even be achieved before pupils leave formal education.

These goals are capable of being researched, but by definition such research is likely to privilege case study, vignette and ethnography rather than traditional empirical techniques. Traditional research methods find it close to impossible to capture and make generalisations about the heuristic and context-bound literacy acts in which individuals struggle to clarify goals, deal with partial understanding, then go on to transform knowledge, juggle rhetorical constraints, and bring to bear a lifetime of cultural, social and linguistic practices as they compose a text. As Flower acknowledged, even attempting an integration of these cognitive and socio-psychological perspectives is problematic: 'Complexity and dialectic are hard to sell' (*ibid.*, p. 32). Nevertheless, on Flower's own argument it is essential that we make the attempt to create a multidimensional image of learning, using both traditional perspectives which apply classical research designs, and sociocultural perspectives which recognise that literacy acts occur within social and political contexts, and within (often unacknowledged) intentional and authority frameworks. There may be pragmatic reasons for valuing simplicity in reporting educational research, but there are ethical reasons for attempting to represent its complexity.

For an interesting book-length attempt to answer the question of how recent research might best inform the teaching of English, look at *Teaching and Learning English*, by Richard Andrews (2001). His scope is in some respects broader than that of this review, since it addresses ICT and media studies as well as literacy, but his perspective and that of this report are in harmony in suggesting that both teaching and research will benefit from being brought closer together.

3 STAFF DEVELOPMENT – HAS THE STRATEGY GOT IT RIGHT?

First, the good news: research has shown that there is a strong relationship between teacher education and literacy improvement.

Two of the most important developments in government policy relating to literacy over the past four years have been the extension of the work of the Strategy into the early years of secondary schooling at Key Stage 3, and the provision of extremely detailed staff development materials and an accompanying in-service programme for supporting teachers at each of the first three key stages. So the combined strategies are not simply about improving literacy standards through the dissemination of classroom materials: they represent arguably one of the largest staff-development initiatives in the literacy field ever attempted in any country in the world. If we are to discuss the research evidence underpinning the strategies, it is important therefore to address these system-level changes to the educational fabric of the country as well as the defensibility of the pedagogy that underpins the classroom materials.

Improving standards in children's literacy is not simply a matter of applying the findings from research in order to develop classroom materials. As Michael Fullan, who is leading the Canadian team evaluating the National Literacy Strategy, has pointed out (Fullan, 2000), there was a 'massive failure' of reform initiatives in the 1960s and 1970s, because innovations were based on disseminating materials that were adopted (or not adopted) by individuals, without systemic change at classroom, school, district and regional levels. Systemic change has to involve teachers, but it also has to be about putting in place integrated and coherent reform initiatives, supported by strong and complex partnership networks.

Evidence examining the relationship between in-service professional development in literacy and student achievement was reviewed in the National Reading Panel (NRP) report produced in the US in 2000. The NRP report concluded that appropriate teacher education does produce higher achievement in students, and it is interesting to note that, in reporting these results, the Panel specifically avoided the phrase 'teacher training'.

The argument was that, while it is possible to 'train' teachers to use particular methods to teach, it is more appropriate to educate teachers of literacy to work flexibly and with a high level of autonomy in a professional context that gives them control over a wide range of decision-making tools (NRP, 2000; pp. 5-4).

> The US Congress-commissioned National Reading Panel report, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction*, (National Reading Panel, 2000), was a 450-page review based on approximately 2000 studies selected for closer analysis from among the 100,000 reports on literacy research which have been published since 1966. The report was criticised from within the US by some commentators who felt its membership and criteria for identifying 'research-based knowledge' were too narrow, and marginalised sociocultural perspectives, but the Panel's findings are widely accepted as authoritative (particularly in the areas of phonics and comprehension, where there has been the most research). An electronic version of the report can be found on the web at www.nationalreadingpanel.org.

Analysing the trends in research studies that looked at the relationship between in-service development and student achievement among a total of 70 groups of teachers, the National Reading Panel concluded that:

- **provided they are well-funded and well-supported in terms of providing time for teachers to learn, interventions in teacher education and professional development are successful in improving literacy;**
- **improvement in classroom teaching leads directly to higher achievement on the part of learners;**

- **teacher attitudes change as a result of successful interventions, and without such changes in attitudes, it is extremely difficult to effect changes in practice;**
- **no single method of teaching that was investigated showed unquestioned superiority, but rather an eclectic mix of methods was successful (NRP, 2000, pp. 5-13, 5-14).**

The issue of the time needed to implement systemic change is crucial, and it is a vital one in considering the effects of professional development initiatives for teachers, as I have argued elsewhere in a paper on the evaluation of the original NLS pilot work on literacy improvement at Key Stage 3 (Harrison, 1998a). The research evidence available in this area has been gathered more in primary than secondary schools, but in many cases the findings are relevant across sectors. One major US study that looked at 'Schools that are beating the odds' (i.e. in which children are below the 50th percentile in terms of economic indicators, but where literacy scores are above the 75th percentile nationally) was conducted by the national Center for the Improvement of Early Reading Achievement (CIERA). It came to one important conclusion: that it takes up to three years for a large-scale innovation to impact on schools and school achievement at the systemic level (Taylor, 1998).

On reflection, this is a very reasonable analysis. First, teachers develop highly individual and deeply embedded approaches to teaching their subject, and if they are going to make a fundamental shift in those approaches, they will need to go through the same processes of coming to terms with new learning that characterise the learning of their pupils. They will have an initial period of working by the book, with a partial and incomplete sense of how everything connects up and coheres. This is followed by a period of consolidation, as emerging understandings and practices are aligned and are related to their earlier experiences. This does not happen overnight, and for such changes to become embedded in teachers' practice, and for this practice to affect the achievement of a whole year group, we should not be surprised if the time taken is as long as three years.

What were the characteristics of schools that were 'beating the odds' in literacy achievement? Taylor's answers nearly all related to system-wide factors and to the area of the professional development of teachers. She reported that whatever the socioeconomic background of the pupils, these successful schools had:

- **high expectations of pupils;**
- **teamwork across the school, with common training and regular meetings;**
- **change occurring over more than one year;**
- **coherent literacy interventions across all age groups;**
- **ongoing staff development.**

Taylor also reported on the specific literacy-related practices that these schools had in common. These were:

- **emphasis on the enjoyment of literature from the earliest years;**
- **systematic word-recognition instruction;**
- **repeated reading to develop fluency;**
- **guided writing;**
- **one-to-one reading support;**
- **regular formative assessment of progress;**
- **20 minutes of small-group instruction daily from classroom teacher.**

These practices are clearly in harmony with the goals of the literacy strategies in England. Taylor's research also extended to older children, where there was an additional emphasis across the successful schools on the following:

- strategy instruction on reciprocal teaching and vocabulary development (see Section 4, below);
- work on transferring and applying strategies in students' own reading tasks;

- development of students' self-dependence as readers;
- development of teachers' skills in encouraging independence in readers.

This is a somewhat daunting list to read if you are a teacher already working night and day to improve literacy, but although it implies a great deal of hard work for teachers, there is one clear and positive message: you can't do this on your own. The CIERA study offers the promise of lasting improvement, but not unless teachers are supported in a sustained way through staff development. Taylor's schools had monthly meetings in the first year of implementation, and bi-monthly meetings thereafter, and the teachers worked collaboratively, with strong support from the centre, and it is common in US interventions for some of the teacher meetings to occur in school time, with cover from substitute teachers supplied as part of the innovation's funding.

> CIERA, The Center for the Improvement of Early Reading Achievement, has since 1996 been the chief government-funded research centre in the reading field in the USA. Led by a consortium of researchers from a number of universities, the centre is based in the University of Michigan, and has taken the lead in innovation in relation to teacher development. Many technical reports from the centre on system-wide initiatives to improve reading are available as downloadable files from www.ciera.org. The centre has also taken a lead in uploading video clips of classroom and staff development onto its web site, to support staff development in other locations, and to stimulate discussion about good practice in both primary and secondary schooling.

Research suggests that unless there is strong and enduring central support for a major literacy innovation, the chances for long-term success must be in doubt. The National Reading Panel reported on some studies that did not show long-term gains, and there are serious implications here for the UK government to consider in relation to the National Strategy.

The less-successful studies reviewed by the National Reading Panel included that of Morrison and his co-workers (1969), which showed no effect on literacy improvement, and in which the intervention basically consisted in giving teachers packets of material. Similarly, a study by Stallings and Krasavage (1986) showed initial positive effects, but a decline after three years. Morrison's study (1969) showed that after three years, teachers who were working without sustained support eventually reverted to the methods of teaching that they had been using initially, and jettisoned the materials and approaches which had been advocated in the innovation. The results of the Morrison study should not surprise us: as Fullan (2000) suggested, innovation which is not supported by staff development is likely to fail.

But we need to pay close attention to the studies with negative results: these suggest strongly that for the combined strategies to be successful, staff development will need to be sustained, and staff development contexts which recognise teachers as professionals and not as technicians will need to be put in place and supported by appropriate funding.

We should not leave the topic of teachers' professional development without referring to the staff development initiatives associated with Reading Recovery (Clay, 1995). Reading Recovery is acknowledged to have been a worldwide success in many reports (Ofsted, 1993; Sylva and Hurry, 1995; Hobsbaum and Leon, 1999). The cost effectiveness of Reading Recovery has been challenged by some researchers, but few would question the transformative nature of the professional training which teachers engage in over a full year in order to be accredited as Reading Recovery specialists.

> Finding information on Reading Recovery is relatively easy; evaluating it impartially is less easy. Try using 'reading recovery links' as a search term on the web. Follow links to *Reading Recovery Councils* for research reports sympathetic to Reading Recovery; check out Bonnie Grossen's review of research into Reading Recovery from the University of Oregon for a counter-view.

What do effective teachers of literacy look like?

We have a number of useful answers to this question, from recent research in both the UK and the USA, and it makes sense to give some space to reviewing them, for the very good reason that being presented with good models works just as well for teachers as for children. If we know in some detail what kind of teacher we want to be, we have a better chance of developing in those directions. As is often the case in literacy research, we have more research evidence about good primary teaching than good secondary teaching, but there are plenty of areas in which the skills that matter generalise across the primary-secondary divide. One further good reason for reviewing these studies is to check the models of good teaching that are derived from research against those implied or stated by the Strategies; if there is alignment, we can move forward with confidence to considering the literacy practices advocated by the Strategies which effective teachers should be implementing.

> The *Effective Teachers of Literacy* study (Medwell, Wray, Poulson and Fox, 1998) was commissioned by the Teacher Training Agency (TTA), and began its work before the National Literacy Project, although it makes helpful connections to that work through its definitions of literacy, its accounts of teachers' subject knowledge, and its descriptions of teachers' classroom practice. Studies of good teaching are often bedevilled by methodological wrangles over whether the researchers (a) successfully identified what makes an effective teacher, and (b) successfully identified the teachers who were supposed to exemplify these criteria. This team made some clever decisions: they chose effective teachers not on head teacher's recommendation (one study showed this to be wrong 50% of the time), but on a composite measure of value added over two years (pupils had made better-than-expected gains in literacy, on measures using nationally standardised tests in both of the previous years), as well as LEA adviser recommendations, supported by head teacher and confirmed (where possible) by Ofsted reports.

The TTA commissioned a study of what made for effective teachers of literacy, and the report of Medwell and her co-workers (1998) is regarded by the research community as having done this job pretty successfully. Having put in place a very stringent set of criteria against which to identify effective teachers, the team located 228 teachers from LEAs across the country who matched the criteria, and then collected data on their beliefs, practices, organisational skills, pedagogy, assessment strategies, knowledge about literacy and professional development histories.

The *Effective Teachers of Literacy* research team followed up a questionnaire with interviews and classroom observation, and this is what was found. Effective teachers of literacy (and it is made clear that this includes writing as well as reading) showed the following characteristics:

- **They made clear the purpose of their teaching to the pupils, and were very specific in explaining how individual literacy activities at word, sentence and text level contributed to the creation of meaning.**
- **They centred much of their teaching around 'shared' texts, that is, texts which the teacher and children either read or wrote together, and these shared texts were used to exemplify the connections between text, sentence and word level knowledge.**
- **They taught decoding and spelling in a highly systematic and structured way, and made it clear to the pupils why such structures were useful.**
- **They emphasised to pupils the functions of what they were learning, teaching the rules of grammar, for example, in a way which showed how such knowledge could help improve their writing.**
- **Effective teachers were well theorised: they had strong and coherent philosophies about the teaching of literacy that guided their selection of teaching materials and approaches; these philosophies enabled them to consolidate their knowledge and brought coherence to their planning and teaching.**

- **They had well developed systems for monitoring children's progress and needs in literacy, and used this information to plan future teaching.**
- **They had extensive knowledge about literacy, including a good knowledge of children's literature.**
- **They made good use of opportunities to develop their skills and understanding through in-service courses.**

It is worth emphasising again that these teachers were exceptional, and that the teachers against whom they were compared, the 'validation sample' of mathematics specialists, were also experienced and successful teachers. But the 'effective teachers of literacy' were different, and Medwell and her colleagues clearly believe that these differences were causally connected to pupil achievement.

The effective teachers of literacy had a coherent set of beliefs that emphasised purpose, communication and an integrated approach to comprehension and composition. They connected everything up, and this was crucial – skills were important, but they were not taught in isolation. The effective teachers did not declare a strong orientation towards phonics, for example, yet they taught phonics systematically, but as a means to an end, not as an end in itself (Medwell et al. 1998, p. 26). The 'validation group', by contrast, ascribed greater importance to phonological awareness than to enjoyment. But the philosophy of the effective teachers of literacy was clear: first and foremost, make reading enjoyable; help children to understand that books and words carry meaning, and then teach skills systematically, but not as an end in itself.

The Medwell et al. study also included an investigation into the literacy teaching of novice teachers who were just completing their PGCE. What was found mirrored the findings of the main study: the most successful novice teachers had already made coherent connections between their PGCE course (both university-based and school-based) and their practice in the classroom. Having a strong academic background was not enough, however: many beginning teachers had not yet reached the point at which they could transform subject knowledge into pedagogical content knowledge. The study concludes that such transformations will not inevitably come through experience, but rather they need to be facilitated through contact and ideally through observation of experienced teachers, followed by opportunities for discussion, linked to target-setting for future performance (Medwell et al. 1998, p. 67).

This is an important point: there is in many staffrooms a historical antipathy towards 'theory', which in the past has been seen as not only abstract, but divorced from the classroom and irrelevant to the improvement of good practice. Yet not only were Medwell's effective teachers of literacy well theorised, they regarded theory as emancipating and professionally empowering – it was what enabled them to make confident and professionally informed decisions about their literacy teaching. It was what enabled them to move beyond the role of technician or educational paramedic and into the role of professional, to become teachers who could use the Strategy as a toolkit, not a script, and apply it with flexibility and confidence, rather than obedience.

The implications here are clear:

- **all teachers benefit from having an understanding of literacy processes, and a well-theorised understanding of how what they do as teachers leads to improvement;**
- **but theory alone is not enough – many of the novice teachers were strong on theory and subject knowledge, but they had not yet connected it to practice;**
- **making strong connections between theory and practice does not just happen: it needs to be facilitated by providing opportunity and support, over an extended period.**

A large-scale and carefully detailed US study of literacy development in 30 classrooms across five states found very similar results to that of the Medwell et al. survey. Pressley and his co-workers (2000) applied a similarly rigorous set of criteria to identify a population of outstandingly effective teachers of literacy, and at least two members of the research team visited the classrooms of the outstanding teachers on more than one occasion to observe their practice. What the Pressley team found was characteristic of the classrooms of these 30 teachers was the following:

- **High academic engagement and competence**
  (90% of students were engaged in things academic 90% of the time, with lots of on-task student talk);
- **Excellent classroom management**
  (clear rules and expectations; everyone working with students focused on skills, strategies, and tasks that were emphasised in the classroom instruction);
- **Positive, reinforcing, cooperative environment**
  (consistent positive tone in the classroom; a great deal of positive reinforcement for achievement; students were encouraged to work cooperatively with one another);
- **Explicit teaching of skills**
  (i.e., word level, comprehension, writing skills; these skills were taught exclusively or predominantly in the context of actual reading and writing tasks; the teacher explicitly modelled many of the activities students were asked to do).

The features of these classrooms come as no surprise. We would expect outstanding teachers to be superb organisers with high expectations, who are skilled in keeping all pupils on-task, and who adroitly weave skills work into interesting and authentic learning contexts. Nevertheless, it is worth noting that the National Strategy does explicitly encourage teachers to teach in precisely this way, and attempts to offer support and scaffolding for teachers through materials and in-service provision. As an example, one could cite the opening section of the *Framework for teaching English: Years 7, 8 and 9* (DfEE, 2001a), which states after listing word, sentence and text level objectives:

> The list of objectives does not imply that teachers should approach them in isolation or teach them in a reductive way. Objectives benefit from being taught explicitly and from being identified and deployed in context. Planning should draw together objectives from Word, Sentence and Text level.... Teachers are encouraged to find ways of clustering together complementary objectives. (p. 11)

Another study of effective teaching that has relevance for Key Stage 3 as well as primary teachers is the two-year Leverhulme Primary Improvement Project conducted by Ted Wragg and colleagues in four LEAs in England from 1996-8.

> The report of the Primary Improvement Project, *Improving Literacy in the Primary School* (Wragg et al., 1998) provides not only an overview of pedagogy in over 1300 schools, but also a comprehensive and detailed account of the good and not-so-good practice that occurs in individual classrooms. Some of the 'fly-on-the-wall' accounts of the teaching of reading and writing in the book are worrying, and give strong support to the Ofsted picture of variable and sometimes poorly-informed practice which the combined strategies have the goal of eliminating.

The Wragg et al. study focused progressively on individual classrooms, and looked particularly closely at the classes of 35 'above average' teachers who met three criteria: highly regarded by their head teacher, high 'value added' (on average, 90% of the pupils in these teachers' classes not only improved, but improved at or beyond the level that was predicted from their previous performance), and high pupil attention ('on-task' behaviour). Ted Wragg lists the characteristics of the 'above average' teachers, but he also makes the very telling point that these are not a universal prescription, and that not all the excellent teachers manifested every factor.

The ten features of the teachers identified by the *Improving Literacy in the Primary School* project as 'above average' were:

1. **a high level of personal enthusiasm for literature;**
2. **good professional knowledge of children's authors;**
3. **literacy valued in a literacy-rich environment;**
4. **public celebration of children's success to increase confidence;**

5 **careful matching of tasks to children's reading interests;**
6 **systematic monitoring and assessment;**
7 **regular and varied reading activities;**
8 **pupils encouraged and shown how to develop autonomy;**
9 **high 'on-task' scores for pupil engagement;**
10 **high expectations for all, regardless of circumstances.**

(Wragg et al. 1998, pp. 265-6)

What we need to do, argues Wragg, is to bring about a situation in which all teachers of literacy match most of these characteristics, and to explore the ways in which departmental or year-group teams of teachers can work together to share, plan and evaluate their own progress and professional development.

4 THE TEACHING SEQUENCE – HAS THE STRATEGY GOT IT RIGHT?

The five-element teaching sequence

The five-element teaching sequence reproduced below is fundamental to the Strategy. The sequence is recommended as the main pedagogic structure in just about every unit, so it is important to ask whether there is research evidence to support this approach. Broadly speaking, the answer is unequivocally positive: there are dozens of studies that support the five elements.

The five elements are:

- Identification of prior knowledge
- Teacher demonstration of process
- Shared exploration through activity
- Scaffolded pupil application of new learning
- Consolidation through discussion/activity

Identification of prior knowledge

Presumably every teacher believes that it can be useful to clarify what pupils know before moving on to new work. What they may not realise is precisely why this is useful, and how important it can be. Twenty years ago, Judith Langer (1981; Langer and Nicholich, 1981) developed a technique for identifying prior knowledge which Langer called PreP (Pre Reading Plan). This was a three-phase model for eliciting and classifying prior knowledge: first students generated initial associations; next they discussed and classified what they collectively knew; finally they reformulated their knowledge, clarifying what they now knew as a result of the group or class discussion.

The results of research into activating prior knowledge were impressive: Judith Langer showed that readers who engaged in prior knowledge elaboration learned more and retained more than those who did not, even though the teacher specifically refrained from introducing any new material herself during the elicitation phases. Langer argued that eliciting and organising prior knowledge makes the approach to new learning more meaningful, and activates schemata (the cognitive frameworks) onto which new knowledge will be mapped, so that the teaching, when this does begin, will be much more effective. Langer also demonstrated that prior knowledge was a better predictor of learning than IQ, which suggests that if teachers elicit, clarify and organise prior knowledge, and thereby increase provisional understanding, processing and recall for all students will be increased. Other studies have also confirmed the value of activating prior knowledge (Langer, 1981; Langer and Nicholich, 1981).

Teacher demonstration of process

The most widely-cited studies on the value of teacher demonstration of process have been those of Gerry Duffy and Laura Roehler (Duffy et al., 1987; Duffy and Roehler, 1989). There were four aspects to the approach they recommended. First, the teacher explained and demonstrated a strategy (in the case of reading, it might be the construction of mental images of what you are reading in a text, for example, or the practice of formulating your own questions prior to reading). Second, the students then modelled publicly their attempts to apply the strategy, with the teacher monitoring, commenting, and inviting the students to contribute to the process of clarifying what the strategy looked like in action, in the context of an authentic reading task. Third, the teacher gradually gave less and less feedback to the students, thereby shifting the responsibility for activating and using the strategy to the students. Fourth, and crucially, the teacher prompted the students to use the strategy on occasions right through the school year, so that, although the students were encouraged to apply the strategy autonomously, this was not left entirely up to them. Thus the teacher not only demonstrated how to apply the strategy, but modelled how to recognise opportunities for applying it in authentic contexts.

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Shared exploration through activity; scaffolded pupil application of new learning; consolidation through discussion/activity

Clearly the studies cited above do not deal solely with teacher demonstration. In fact, the Duffy and Roehler approaches move from teacher demonstration to shared exploration, then to scaffolded pupil work and finally to consolidation. But there are other research studies that add support for these separate parts of the teaching sequence.

The emphasis on teacher demonstration leading to shared exploration, then to scaffolded application of new learning, is very much in harmony not only with the Strategy, but with the current neo-Vygotskian movement in the UK. Vygotsky was a Soviet psychologist whose research was carried out in the 1930s, but whose significance was not understood in the west until his work became available in English in the 1960s. Vygotsky's *Thought and Language* (1986) offered the crucial insight that learning was a sociocultural phenomenon, and what followed from this was that the focus for research into learning should be the adult-child relationship, and not simply the child. The logical extension of this was that we should examine closely the role of the adult as an expert from whom the child is learning. The often-quoted 'Zone of Proximal Development' comes in at this point, since this is the distance between the child's current developmental level and the level that an expert (usually, but not always, an adult) can help the child to reach.

David Wood (Wood, Bruner and Ross, 1976) has used the metaphor *scaffolding* to describe the teaching support that enables the child to bridge the Zone of Proximal Development gap. Scaffolding is the process by which the teacher (though it could be another adult, or a peer) organises learning that is unfamiliar or beyond a learner's ability in such a way as to assist the child in carrying out the new task. In Wood's original study, young children were encouraged to carry out parts of tasks that were within their ability, and the adult 'filled in' or 'scaffolded' the rest. Scaffolding is quite a complex process: it is not simply about giving general support to the child.

Scaffolding involves:

- **activating and maintaining the learner's interest;**
- **then (crucially) reducing the number of choices available to the child;**
- **keeping the child on task;**
- **highlighting critical aspects of the task;**
- **but also controlling their frustration;**
- **demonstrating the whole process to them.**

(Wood, Bruner and Ross, 1976; Wood and Middleton, 1975)

There are two key points here: the first is that this set of procedures follows very closely (though with slightly different terminology) the Strategy's teaching sequence; the second is that the researchers demonstrated that scaffolding was effective. Tutors who had been specially trained to identify accurately the learner's level of achievement were not only better at gauging progress – their approach led to better learning.

One further point on scaffolding: it can be unwise to dismantle it too early. Scaffolding becomes unnecessary once the learner has reached the point of having a shared perspective with the teacher. But in order to be able to apply the new learning independently, the pupil needs to be able to apply the new understandings in unfamiliar contexts, and to take the role of the teacher in asking appropriate questions of himself or herself, and others. This is a major transfer of responsibility, and it does not happen rapidly or spontaneously for the whole class. Variability in pupils' ability to draw inferences and to reason logically will effect how rapidly they can do without the scaffolding.

As we shall see in a later section of this review, the combined Strategies' approach to developing pupils' writing using writing frames clearly requires a great deal of teacher scaffolding. In their books on developing literacy, which have introduced many UK teachers to writing frames, Wray

and Lewis (1997) and Lewis and Wray (2000) acknowledge this. The Vygotskian emphasis on teacher demonstration, with the teacher as 'expert' whose contribution is gradually withdrawn is clearly present in the team's philosophy:

> **Teaching is about scaffolding: the model of teaching demonstrated here is complex, but is based on a belief that teaching is not simply about the transfer of a body of knowledge ... This role as an 'expert facilitator' is one where the children's learning is 'scaffolded' rather than 'constructed' ... The outcomes of learning are modelled in some ways by the teacher, and the students then apply this 'expert' view to their own understanding. The eventual aim under this model is that the students should become equipped to carry out the work and learn for themselves, so that the expert facilitator can withdraw. (Lewis and Wray, 2000: *Literacy in the Secondary School*, pp. 88-89)**

Tharp (1993) has described the nature of scaffolding in a manner that shows the research-based support for learner-centred education, and the ways in which 'instructional conversations' can become the central mechanism for supporting active, strategic learning (reported in Wilkinson and Silliman, 2000). For this to happen, four things need to be in place:

- there must be **a central emphasis on language**, particularly that related to understanding and managing the activity;
- teaching should be grounded in **culturally meaningful experiences** that help pupils to be able to transfer learning to new contexts;
- effective teaching and learning occur in **collaborative activities**, with active learning in contexts in which individual differences are respected;
- **the basic form of teaching is dialogue** that leads to an integrated approach to listening, speaking, reading and writing, with an emphasis on pupils increasingly directing their own learning.

This stress on self-regulation, and the pupil gaining confidence and independence from the teacher but doing so in a supportive way, and with feedback from others, leads us naturally to another key feature of the combined Strategies, and this is the value of small group work.

The importance of small group work

The teaching sequence, which moves from the elicitation and activation of prior knowledge to the consolidation phase, is essentially teacher-directed. But clearly there is also a major emphasis in the Strategy on small group work, not least when the teacher is organising guided reading for some pupils and independent work or small group work for others.

There is in the research literature a direct developmental connection between scaffolding and small group work. Scaffolding is a process that gradually transfers the responsibility from teacher to student for task planning, strategy selection, monitoring of progress and the evaluation of outcomes. But scaffolding is not only about strategies; it is about knowing when and where strategies should be used, and since (as we have already seen) research has shown that learning is facilitated when it takes place through dialogue and instructional conversations, the natural place for these to take place without the teacher is in small groups, and between peers.

The classic study which had a significant impact on classrooms in the US and which also stimulated a great deal of additional research into small group work in literacy development was that of Palinscar and Brown on reciprocal teaching (Palinscar and Brown, 1984). The central idea behind **reciprocal teaching** was to develop an approach to using text materials to promote learning in a way that actively engaged students in the process of constructing meaning, while simultaneously promoting the conscious use of effective comprehension strategies. This procedure was designed to involve teachers and students in a dialogue about text material, during which four comprehension strategies were actively employed. These strategies, argued Palinscar and Brown, were spontaneously applied by good readers, but not by average and below-average readers. Middle-school children

(equivalent to Year 7 in England), who were poor readers, were instructed how to take turns asking questions about what they were reading, summarising the text, and making predictions about what would be said in the next section of text. Teachers first modelled this behaviour, thinking aloud as they did so. After several weeks of practice over about 20 lessons, students scored significantly higher on tests of reading comprehension than control-group students who had been given intensive reading practice but who had not practised reciprocal teaching. Scores of the reciprocal teaching group on science and social studies tests also went up, and these differences lasted at least eight weeks after the experiment ended, which suggested that the children were transferring their learning to new reading contexts.

An Internet search using *reciprocal teaching* as a search term yields many useful references to this approach, though many are at the college level.

The strategies which encouraged comprehension monitoring and dealing dynamically with problems that occur when comprehension is difficult are summarised below:

1. **Summarising** – developing the ability to identify the most important information and to communicate it in a succinct fashion.
2. **Questioning** – involves students in generating their own questions, in thinking about what they don't know, and what they need to know or would like to know about a passage. The aim here is to promote purposeful reading, and a sense of personal meaning-making.
3. **Clarifying** – the key skill here is monitoring one's own comprehension, identifying when there has been a comprehension breakdown, and then taking the necessary action to restore meaning.
4. **Predicting** – requiring students to utilise given information and background knowledge in order to form a hypothesis about the text type, and where the text was likely to lead. Predicting encourages thoughtful, strategic reading.

When introducing reciprocal teaching, these four strategies are directly presented, explained, and modelled by the teacher. Once students are familiar with the strategies, they are invited to take the role of the teacher, and conduct their own reciprocal teaching dialogues with their peers, using new text material. At this point the teacher's role shifts from providing direct instruction to monitoring progress and providing feedback. As they become more confident, students are given greater independence from the teacher, working in pairs to coach one another, ask questions, summarise, predict, clarify, and think aloud about what they are reading. This small group work therefore becomes a key element in bridging the gap between teacher-directed instruction and independent reading.

The research reports are in agreement: reciprocal teaching has been successfully taught at every level from primary school through to college, but the research indicates that this procedure may be particularly effective with less proficient readers, and is especially effective with expository texts.

At this point it is worth taking a moment to consider why, if reciprocal teaching activities are so worthwhile, teachers everywhere have not adopted them as a fundamental part of their classroom planning. Perhaps the answer is related to one of the less publicised findings of Palinscar and Brown (*ibid.*), which was that good readers had much less need of such scaffolding. Another classic study of how good and average readers cope differently with poorly organised texts illustrates the point. Marshall and Glock (1978-9) looked into how well college-age students coped with expository texts in which there was not only dense information, there were also problems related to information structure. In some versions of the test passages, the structure of the information was inadequately signalled, and information was poorly ordered. In order to carry out their research with the full range of students, Marshall and Glock worked with student populations from both an Ivy League university and a community college. Originally, the intention had been simply to pool the data from the two groups, in order to have a full range of ability, but the researchers decided to analyse the data from the two populations separately. The

results were very different for the two groups of readers: for the Ivy League students, it made little difference whether the structure of the information that they had to memorise was appropriately signalled or not, or whether the information was ordered appropriately, but there was an enormous difference in the case of the junior college students. This latter group performed adequately with the coherent texts, but fared far worse on comprehension and recall of poorly signposted and poorly organised texts.

The vast majority of teachers are good readers, in relative terms at least. In relation to the Marshall and Glock study, they are therefore likely to be towards the Ivy League end of the continuum, in terms of their being able to cope with difficult or disrupted texts. By the same token, therefore, they may not find it easy to understand intuitively just how crucial it can be for average and below-average readers to be given support in developing reading skills and strategies to cope with such texts.

> Most teachers of English are rightly sceptical and cautious about 'skills' approaches. Too often in the past, these have led to boring, demotivating classroom exercises that have no useful outcomes. For teachers, most of whom are themselves good readers, the 'natural' approach, which would promote reading development primarily through class discussion and extending the range of texts, might seem to be best. But this research, and that of Palinscar and Brown, suggests that we need to rethink how best to support reading development.

What can we learn from these studies? I would suggest that there are three important implications.

- First, we should, if possible, **give poor readers well-organised, clearly signposted texts.**
- Second, we should **give all readers, but especially weak readers, scaffolded support and guided practice in learning how to deal with poorly organised and poorly signposted texts,** especially texts that they are likely to meet and have to cope with independently.
- The third implication is a very serious one for teachers: this is that a 'natural' approach to reading development (for example, simply having a wide range of texts and plenty of discussion) may be fine for good readers, but could be disenfranchising and disempowering for the very pupils who are most in need of reading development. **For weaker readers, systematic and structured support for reading development, which is offered by reciprocal teaching, and which underpins all similar approaches (including DARTs, the EXIT model and writing frames) is absolutely vital, and has the potential to make a real difference to the ability of weaker readers to cope with a range of texts, both in school and beyond.**

5 READING – DOES RESEARCH SUPPORT THE STRATEGY?

Word level

Phonics – has the Strategy got it right?

There are sound reasons for giving some attention in this review to the issues of phonics and the reading process. First, classroom work on phonics is supported by the combined strategies in each of the first three key stages. Second, it is helpful for all teachers to have some awareness of how the reading process works, and the implications of this. Third, at the time Roger Beard wrote his review of research underpinning the NLS in 1998, we were in the middle of one of those periods of internecine strife related to phonics teaching that seem to occur about every fifteen years or so. Since then, two landmark reports on reading pedagogy have recently appeared, and these demonstrate a growing consensus in the field (Snow, Burns and Griffin, 1998; National Reading Panel, 2000).

Recently, we have entered a period of comparative calm in what are sometimes called the reading wars, at least in the UK, and it is noticeable that there has been a deafening silence from researchers in relation to the phonics teaching strategy advocated by the NLS. The reason for the silence is clear: researchers agree that the phonics strategy is more or less right, and in the small number of areas of minor disagreement, there isn't really conclusive evidence either way.

> As I have argued in a paper reviewing the case for balanced phonics instruction (Harrison, 1998b), the teaching of initial literacy is perhaps the most challenging job in education. The teacher of children in their first year at school faces a classroom full of eager young people who are desperate to learn to read, and adding to the pressure is the teacher's awareness of what has been called the 'Matthew effect' in learning to read (Stanovich, 1986), namely that the process is bi-directional and cumulative. Once a child begins to learn to read, not only does the ability to decode print improve, there are improvements too in phonological awareness, vocabulary, the ability to comprehend and in world knowledge, all of which make it difficult or impossible for a slow starter to catch up. As in the parable of the talents in the New Testament, when it comes to beginning reading, and whether or not this may seem unjust, improvement is exponential, and operates on the principle 'to those who have it shall be given'. The teacher will also be aware, as Connie Juel found in her study of children who experienced early failure in the USA, that those who struggle soon decide that they neither like reading nor want to read (Juel, 1988).

How we comprehend

Let's remind ourselves just how difficult comprehension is, and what an amazing job the brain does in dealing with the challenge. In understanding one minute of speech (which in the case of a news reader, for example, reaches the ear at the rate of about 180 words per minute), the brain has to process, not 180 words, but an undifferentiated and continuous mush of sound that is made up of about 1000 elided phonemes. The brain has to decide where the word boundaries are within this mush of sound, make tentative decisions on what words might have been heard, parse the words into grammatical classes, link the words to semantic networks, combine these into phrases, then try to comprehend the emerging meaning at the local level (does this phrase make sense?), text level (does this phrase fit into the emerging picture I am developing of what this whole text or message is about?) and global level (how does this emerging message fit in with my existing knowledge of the world, and do I now need to update that knowledge?).

In relation to the argument I am going to develop, it is important at this point to distinguish between bottom-up and top-down processing. Bottom-up processing is in this case the processing of the audible signal, the human voice, into phonemes (the smallest chunks of speech sound) that are built up into words (or parts of possible words). Bottom-up processing might lead me to guess that 'wh', 'e' and 'n' will be the word 'when'. Top-down processing is the part of

the process that uses information stored in memory to assist with building the macropropositions of the text – working out its argument, what the author is trying to say, and how the text relates to my understanding of the world. In understanding the text, therefore, the brain is switching rapidly between attending to the products of bottom-up and top-down processing in order to reach a tentative conclusion about the meaning.

How we read

The reading process is not simply a print-based version of the listening comprehension process, but there are many similarities. Basically, research suggests that a fluent reader operates two systems in parallel, one dealing with word recognition, and the other dealing with comprehension. But there are some major differences in how these two processes are felt to operate compared with what was known 20 or 30 years ago when many teachers were trained, and in some respects what we now believe is the opposite of what many teachers were taught then.

What we now believe, on the basis of eye-movement research with equipment far more accurate and much faster than used to be available, is that fluent readers fixate nearly every word as they read, and that, far from simply sampling letters on the page in a partial and semi-random fashion, and looking closely at the letters in a word when it seems necessary, a good reader processes just about every letter in every word, very rapidly and very accurately. This is almost the opposite of the model of a good reader that some of us read about in the works of Ken Goodman (1970) or Frank Smith (1971).

> In contrast to the Smith and Goodman view, the currently accepted view of reading among psychologists is that an *interactive-compensatory* model of reading best fits the available data, with the word recognition part of the process largely following a 'bottom-up' model, but with input from 'top-down' processes being used at the same time, but mostly devoted to comprehension (Stanovich, 1984). We now know that, in normal reading, far from only minimally sampling the graphic information in a text, adults fixate nearly all words (over 80 per cent of content words, and over 40 per cent of function words, such as *of* or *the*), and rarely skip over more than two words. Fixations on words generally last from a fifth to a quarter of a second (200-250 milliseconds), and, what is more important, it is now thought that a reader accesses the meaning of a word which is being fixated *before* moving to the next fixation, and will have spent perhaps no more than 50 milliseconds (a twentieth of a second) recognising the word, while devoting the other 150-200 milliseconds to processing the word, and deciding where to launch the eye prior for the next fixation.

The current view, therefore, is that for fluent readers in normal reading, rapid, automatic word recognition is what occurs most of the time, with the duration of a fixation largely related to the relative frequency of different words. Fluent readers cannot suppress the effects of context, but the key point is that they are not dependent upon context for word recognition. This model does not deny the use of context as an aid to comprehension, nor is phonemic decoding of less familiar words ruled out, but these are both assumed to be aids to word recognition rather than essential components.

A fluent reader, on the interactive-compensatory model, uses very little processing capacity for word recognition, and is thus able to devote additional mental resources to comprehension. The process is compensatory in that, when necessary, readers compensate by devoting additional resources to the word recognition part of the process. Stanovich did not, of course, say that it was bad to use context in order to help recognise words, only that it took up time and processing capacity.

What are the implications of all this? The main implication is that accurate, rapid word recognition is really important in fluent reading, but it is not how we begin, nor is it a goal in its own right. The *purpose* of reading is to gain meaning, not simply to recognise words rapidly.

I have argued in this section that one of the features that distinguishes a good reader from a poor reader is the ability to use automatic, context-free whole-word recognition. I have quoted only one source, that of Stanovich (1984). But Stanovich himself cites over 180 sources to support his argument, his paper is widely regarded as one of the most important of its decade, and his interactive-compensatory model of reading remains broadly speaking uncontested. The original article in *Reading Research Quarterly* is very densely argued, but I have tried to summarise it and to describe some of what we understand of the reading process in Chapter 1 of *The Reading for Real Handbook* (Harrison, 2001).

We need good teaching of phonics

If rapid, automatic, context-free (or more accurately non-context-dependent) word recognition is one of the hallmarks of being a good reader, then our teaching should encourage children to develop this skill. Learning how to decode print is a complex matter, however, and it involves much more than simply learning the alphabet.

The first stage in this process is to develop phonological awareness. Phonological awareness, strictly speaking, is not about print. It is about developing the ability to manipulate sounds in your head (as, for example, when playing 'I-Spy', or playing a game of tapping out the syllables in 'Jack and Jill went up the hill'). Dozens of studies have demonstrated that phonological awareness is a very strong predictor of future reading achievement, and most researchers regard phonological awareness as a valuable asset, and important in the subsequent development of phonemic awareness.

Phonemic awareness (PA) is a subset of phonological awareness, and focuses more closely on the ability to manipulate in one's head the individual sounds that make up words in English (as, for example, in answering the questions, 'Tell me the first sound in *paste*', or 'Tell me the sound that is the same in *bike*, *boy*, and *bell*', or 'What do you get if you take the *c* away from '*cat*'?). Many correlational studies have shown a clear relationship between PA and subsequent success in learning to read, and the National Reading Panel (2000, Chapter 1) conducted a meta-analysis of PA intervention studies, which also showed very strong effects.

The National Reading Panel (2000, Chapter 2) conducted a meta-analysis of programmes that did or did not teach phonics, and reviewed 38 studies that met a number of fairly stringent criteria of methodological rigour. The results were clear: findings provided solid support for the conclusion that programmes incorporating systematic phonics instruction make a more significant contribution to children's growth in reading than do alternative programs that provide unsystematic or no phonics instruction.

The NRP review also added some important points relating to the detail of phonics instruction. They found, for example, that systematic phonics instruction was most effective when it was introduced in kindergarten (equivalent to our Reception Year in Infant School), and that it was progressively less effective in later years, and for those who failed to learn to read early. **The implication here was that reading difficulties in older children are perhaps not best treated by phonics programmes.** This raises the question of whether phonics instruction should extend over a number of years. The review suggested that research findings supported phonics instruction for the first year of formal schooling (our Reception Year), plus two more years (our Year 1 and Year 2), but that there was not a strong case for extending the work beyond this except for those still at risk of failure.

Research suggests that the Strategy has got the phonics content about right. There have also been some serious attempts made to support teachers, not only by providing staff development time, but through the CD-ROMs and videos, and case study examples that provide models of good teaching. The importance of these must not be underestimated: the teaching sequence of activating and building on prior knowledge, demonstration of process, shared exploration through activity, scaffolded application of new learning through to consolidation through discussion, applies just as much to teachers as it does to pupils.

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The importance of developing vocabulary

In the USA the teaching of vocabulary has always been regarded as an important democratising force in education. In England, over the past 30 years, the teaching of vocabulary has declined, perhaps as part of the general negativity towards the decontextualised teaching of skills. But there would appear to be a fairly strong research rationale for teaching vocabulary, since (for older readers, at least) vocabulary knowledge is the best predictor of reading comprehension. Correlation is not causation, however, and it may be wiser to say that a person's vocabulary is one of the more accessible indicators of their world knowledge, and that it is a person's knowledge that determines their comprehension (see Ruddell, 1994, for a very thoughtful review of this field).

In the UK there used to be a tradition of developing vocabulary as part of language study (through the study of word derivations and Greek and Latin roots, for example), and in the Strategy, there is an emphasis on vocabulary as part of word level work. At Key Stage 3, word level work as such is less prominent, and perfectly properly it comes in as part of spelling, and as part of whole-text analysis. But it is worth taking account of the research findings below, which would seem to have relevance across the curriculum and across key stages.

Some of the key insights from Ruddell's (1994) review of research are the following:

1. **Vocabulary knowledge is not an all-or-nothing matter: a word is understood in stages. For example, the reader often manages in stages to:**
   a. **read and pronounce a known word;**
   b. **learn new meanings for a known word;**
   c. **learn new words for known concepts;**
   d. **learn new words for new concepts;**
   e. **clarify and enrich their understanding of known words;**
   f. **use a word in his or her own writing.**
2. **Children learn new vocabulary better if the learning is active and social (e.g. by performing little drama sketches using the new word, or drawing maps with a partner of semantically related words).**
3. **Children can learn new vocabulary from context, but**
   a. **they are more likely to do so if they immediately use the new word in their own writing;**
   b. **they are less likely to learn vocabulary spontaneously from high school text books, since these are generally too difficult;**
   c. **they are less likely to learn from context if they do not read widely and regularly.**

Reading development – has the Strategy got it right?

One of the most widely-cited UK research studies of reading across the curriculum in schools in England, and which came to be regarded as a champion of shared exploration of texts through activity, was *The Effective Use of Reading* project (Lunzer and Gardner, 1979). The project looked at a number of aspects of using and developing reading, in both primary and secondary schools, and included an 18-month classroom observation study of how much children read in lessons in school. What the team found was that at both primary and secondary level, reading accounted for between 10% and 15% of the time-sampled minutes of a child's day, but that most of the reading in school occurred in small bursts of less than fifteen seconds, with very little intensive reading. And there was often very little interaction with text. For example, in one lesson, a fluent Year 7 reader who was doing a reading comprehension exercise spent less than two minutes actually reading the text. It turned out that for the student a reading comprehension exercise was mostly about writing, since she spent 25 of the 45 minutes composing and writing down her answers. Furthermore, she had no interaction with any of her peers whilst doing the exercise, and no feedback during the lesson as to whether or not her comprehension had been good or poor.

The wider implications of what was happening here are important: for a good reader, reading easy material, the lack of interaction and lack of feedback is unfortunate, but for a weaker reader, it is

disastrous. Poor readers are, amongst other things, very weak at monitoring their own comprehension. The classic work on comprehension monitoring was carried out by Markman (1981), who found that proficient readers could monitor their own comprehension, and detect and repair their own comprehension difficulties, but weaker readers could not. So from this point of view, a comprehension exercise done without interaction or feedback might function simply as a test, confirming the level of a reader's ability, but not offering any scaffolding or input to improve it.

I am not suggesting that for the past 50 years teachers have been negligent or lazy in setting reading comprehension exercises. But it is difficult to get round the problem that comprehension exercises are likely to be a waste of the pupil's time if they are easy, and frustrating and unproductive if they are difficult. In any event, with this analysis in their minds, the *Effective Use of Reading* team set out to consider the alternatives, and to explore and evaluate these. What they finally argued for, and obtained further funding to explore, were DARTs activities (Directed Activities Related to Texts: Lunzer and Gardner, 1984; Davies and Greene, 1984). DARTs activities (some of the best known are sequencing, prediction, highlighting or underlining, diagram completion, and segmenting the text) feature in many guises in the Strategy, and there is strong evidence that they can be very valuable for developing comprehension.

Some of this evidence has been discussed already, so we shall review it only briefly here. The relevant findings from research are these:

- children develop fluency if they do lots of independent reading, but comprehension is less likely to develop spontaneously;
- class teaching of strategies for approaching challenging texts is valuable;
- reciprocal teaching, with the pupil taking the role of the teacher in peer-led discussions of texts, is valuable;
- there are such things as higher-order reading skills (e.g. drawing complex inferences, evaluating the effectiveness of the communication), but these start early, and should be taught in all key stages;
- critical literacy is just as important for weaker as for stronger readers (don't deny 'Why?' questions to weaker readers; research has shown that children from lower socio-economic groups tended to meet fewer questions in their lives).

In an authoritative review of the research into developing reading comprehension, Michael Pressley (2000) argued that we now have a pretty clear idea of what strategies need to be encouraged, partly because these strategies are the ones good readers use, and partly because other studies have shown that if the strategies are well taught, poor readers improve. Pressley's list is not an arbitrary one. There is a fairly extensive research literature underpinning each bullet point, and it is worth noting that the Strategy (either directly, or through the EXIT model) encourages every one.

Pressley (2000) recommends the following strategies:

- **Teach decoding, with an emphasis on morphology**
- **Teach the use of context cues and monitoring meaning**
- **Teach vocabulary**
- **Encourage extensive reading**
- **Encourage students to ask their own 'Why?' questions of a text**
- **Teach self-regulated comprehension strategies, e.g:**
  - **Prior knowledge activation**
  - **Question generation**
  - **Construction of mental images during reading**
  - **Summarisation**
- **Analyse into story grammar components**
- **Encourage reciprocal teaching**
- **Teacher modelling of strategies plus scaffolding for independence**

6 WRITING AND SPELLING – HAS THE STRATEGY GOT IT RIGHT?

Spelling – has the Strategy got it right?

To assist teachers, the Strategy distinguishes between material on phonics and on spelling, but there are many points at which the two topics overlap, and in the research literature the two are often dealt with together. In preparing the section that follows on spelling, I have drawn heavily upon three sources:

- *Spelling: Caught or Taught* Margaret Peters (1967, 1986)
- *Cognitive Processes in Spelling* Uta Frith (1980)
- *Beginning to Read: Thinking and Learning about Print* Marilyn Jager Adams (1990)

All three books are regarded as classic texts in the literacy field.

To a sceptic, both Ofsted evidence and end-of-key-stage test results might be an uncertain basis for coming to the conclusion that standards of technical accuracy in spelling and grammar are lower than they should be. Ofsted data are not in the public domain, and the fact that key stage test results in Writing are lower than those for Reading (and the fact that this applies to girls just as much as boys) could be interpreted as demonstrating that the QCA has simply made it harder to get a level 4 in Writing than in Reading. But there is other evidence that all is not well with standards of writing in England. Sarah Freedman's comparative study of the writing of secondary school students in London and San Francisco (Freedman, 1994) reported that the English students wrote less expository prose, and produced writing that was less accurate in mechanical and grammatical terms than did their US peers. She also reported that US teachers gave more time to teaching which reduced technical errors, because they worried more about how their students would be judged if their work was 'riddled with errors' (p. 218). So whether one accepts the Ofsted and QCA view or accepts the findings from this international comparative study, there would seem to be little room for complacency.

There is general agreement among researchers that very few children spontaneously develop into good spellers. So the broad emphasis within the Strategy on giving attention to spelling is supported by research, as is the chief teaching strategy, namely to use scaffolded inductive teaching, which encourages children to act as detectives, looking closely at letter patterns, and grouping words in a variety of ways. However, well-meaning injunctions of the sort that we have had in the past that tell teachers to teach children spelling rules run up against a big problem: there are hundreds of rules. In fact, one US government study found that using the 300 rules that account for the most common spellings, fewer than 50% of words in the corpus analysed were spelled correctly (Hanna, 1966, cited in Adams, 1990). Nevertheless, research suggests that if you know a spelling pattern or can state a rule, even if there are exceptions to it, you are in a more powerful position to deal with problems such as spelling *hope* or *beautiful* than if you do not.

Spelling is receiving new attention, however, from two directions – studies of morphology, and studies of vocabulary development, and both lines of enquiry support the general direction taken by the Strategy.

The ground-breaking work on children's developing understanding of morphemes of Nunes and Bryant (2000) is important because it gives us much deeper insight into children's spelling development than was hitherto available. The key point here is that an understanding of how children's morphemic knowledge develops enables us to see that the spelling errors that children make are often far more logical and far less random than we had previously realised. A morpheme is the smallest part of a word that has meaning (so *cover* has one morpheme, *uncover* has two, and *uncovered* has three), and it takes children some time to learn to deal with how the morphemic system works, particularly in relation to the formation of plurals and past tenses.

To begin with, we have to accept that children's spelling development is a bit like the development of their grammar in infancy, and that just as infants overgeneralise and misapply rules in spoken grammar (as in 'Mummy *goed* to work'), so children overgeneralise and misapply morphemic rules in their written language. Children learn morphemic rules slowly, and they begin by using phonetic rather than morphemic rules for forming past tenses (e.g. 'I *washd* my face', which is phonetically correct, but does not apply the *–ed* morphemic rule). Even at age 10, children are only getting *–ed* endings right 80% of the time, and interestingly, they find regular verbs harder than irregular. They overgeneralise, for example by writing *sleped* (where the phonically regular *slept* is correct), or by applying the *–ed* rule wrongly (*sofed* for *soft*, or *necsed* for *next*), where the rule has been applied to a non-verb.

After analysing the spelling of hundreds of children, Nunes and Bryant proposed a developmental stage theory in relation to morphemic knowledge. This is useful for teachers, since it gives us additional tools for analysing performance in ways that recognise the positives and avoid the more pathological approaches to looking at the writing and spelling of children. The stages are as follows:

- unsystematic;
- phonetic;
- morphemic but applied to the wrong words;
- morphemic but ignoring irregular words;
- morphemic and correct.

Some final observations must be made about the development of spelling. A key finding from research is that, even if teachers help children learn to spell words, those children won't be good spellers unless they read widely and write regularly. In an important longitudinal study of spelling development, in which pupils in two schools were interviewed three times each year for seven years, Hughes and Searle (1997) concluded that:

- **learning to spell is a high-level, not a low-level cognitive activity;**
- **significant amounts of reading and writing are critical if students are to advance in spelling ability;**
- **invented spelling should be encouraged in the early years, but supplemented by explorations of letter and word patterns;**
- **for older learners, it is important to focus on encouraging explicit analysis and generalisation, rather than simply on spelling accuracy;**
- **slower-learning children should not be denied access to explicit analysis and generalisation.**

Grammar – has the Strategy got it right?

Broadly speaking, there are many firm links between the findings from reading research and the pedagogy recommended by the combined strategies, but it is much, much harder to link the findings from writing research to pedagogy, and to recommendations for national good practice, and we might as well admit this at the outset. In his latest book, Roger Beard (2000) puts the dilemma in a nutshell. Policy makers may well believe strongly that since good writing is grammatically accurate, and uses appropriately a rich variety of grammatical structures, it is essential that grammar should be taught, and taught early. But there is one problem if what is looked for is evidence-based policy: this is that 'research reviews have consistently failed to provide evidence that grammar teaching makes any difference to the quality of pupils' writing … The case for grammar teaching remains largely unproven' (Roger Beard, 2000, p. 123). Mary Hilton (2001), in a recent article which is critical of the NLS approach to teaching grammar, cites a number of reviews of research that come to the same conclusion.

> If we want evidence that supports the case for teaching children grammar, perhaps the best place to turn is not to writing research, but to research into metacognition. We know from

research going back to the 1970s that it can be very beneficial to give learners (including slower learners) training in how to think and a vocabulary with which to describe their learning strategies. The argument here is very similar to that for giving students training in verbalising and practising explicit reading strategies. The reasons for this are all to do with control. Learners who have a conscious awareness of and conscious control over their learning strategies can apply that knowledge in new learning contexts and learn more than those who have not been taught any strategies, or who have simply been given new learning strategies without guidance in knowing how to apply them. (See Garner, 1994, for a review of studies of metacognition.) In the present case, the argument would be that in teaching grammar, the Strategy is aiming to provide pupils with both the vocabulary and the executive control mechanisms necessary to enable them to monitor, control and apply fix-up strategies at the sentence and text level as they write.

The big challenge for teachers is to make the teaching of grammar at the word and sentence level relevant, and part of a larger purpose. If, for example, the teaching of prepositions and the analysis of post-modifying relative clauses is linked to the texts children read, and to authentic writing tasks in which children have something meaningful to communicate, then the study of grammar can achieve its goal of being a powerful medium for teaching writing. If such links are not made, then the likelihood of the work on grammar improving writing standards is far less.

Writing – has the Strategy got it right?

The answer to this question is – it depends where you look. Some of the reservations of Mary Hilton (2001) to the approach of the NLS to developing writing at Key Stages 1 and 2 also apply to Key Stage 3, and are worth attention, but it is also important to note that a great deal of the approach to writing in the combined strategies is not about grammar at the word and sentence level; it is about an integrated approach to literacy, which attempts to link reading, writing, speaking and listening in a coherent and effective way.

Hilton mounts two challenges, and both have relevance to the Strategy at Key Stage 3, as well as Key Stages 1 and 2, even though the emphasis on the teaching of grammar at Key Stage 3 is more clearly intended to be contextual. The first, as we have seen, is that the case for teaching grammar is unproven. In my view, this analysis is correct, but this does not necessarily imply that grammar should not be taught. The argument against the decontextualised teaching of skills is a strong one, but the opposite argument, which would stress the importance of empowering writers by giving them greater conscious control over the tools and processes of writing, is also a strong one. Hilton's second challenge is that the research-based foundations of the NLS writing framework are based on a misapplication of the ideas of George Hillocks (1984, 1995). Hillocks is regarded as one of the gurus of writing in the US, partly because he produced valuable meta-analyses of research into writing, and partly because his categorisation of the teaching approaches evaluated by research is a very useful one.

The three main teaching approaches described by Hillocks are:

- presentational (teacher-led; emphasises skills and the correction of errors);
- natural process (student-led; emphasises drafting and pupil engagement);
- environmental (emphasises teacher-student interaction, with structure and genre learned in an integrated way, through task-specific processes).

The problem, suggests Hilton (2000, pp. 8-9), is that while Hillocks argues that research shows the environmental approach to be far more successful than the natural process or the presentational approach, the emphasis on word level work is much closer to the presentational model. Put the other way, Hilton is arguing that the NLS and the Key Stage 3 Strategy both say that they favour a task-based interactive approach, but much of the word level work is in fact exemplifying the presentational approach.

In my view, Hilton's analysis is justified, but I don't share her view that the implication of this is that the writing part of the National Strategy needs to be radically restructured. One point that will have struck many teachers is that all three of Hillocks's approaches are useful, and it would be unfortunate to have to choose one to the exclusion of the others. Teacher-led class activities emphasising skills can be useful, provided they are not simply about doing corrections; a process approach, emphasising drafting, can be useful, provided the writer is not simply left to drift aimlessly; and a task-based interactive approach to teaching genre can be useful, provided the genres are not taught as inflexible, compartmentalised categories. Furthermore, the three teaching approaches are not mutually exclusive: most teachers integrate elements from all three on a regular basis. This is not a new insight: Arthur Applebee (1986) challenged Hillocks' analysis, particularly his sweeping dismissal of all approaches except the environmental. Applebee noted that research has shown that each of the approaches has been shown to lead to some improvement in writing achievement and that 'the environmental mode that Hillocks champions is itself a version of process-oriented instruction and draws on a panoply of techniques he seems to be attacking' (1986, p. 105, cited in Smith, 2001).

The need for an integrated approach to writing development

Where there is clear agreement between Hilton and the authors of the combined strategies is on the importance of integrating activities in writing, and this integration is exemplified most clearly in the parts that deal with non-fiction. The value of teaching about structure and the importance of modelling writing processes are stressed in all the units on the writing of narrative, but there is particularly strong support from research relating to the sections of the *Framework* that deal with the writing of non-fiction.

The parts of the *Framework* that deal with writing non-fiction and Literacy Across the Curriculum draw very heavily upon the EXIT model (Wray and Lewis, 1997; Lewis and Wray, 2000), the goal of which was to help junior school pupils cope better with non-fiction texts, by scaffolding support for reading, discussion and writing in ways that were well-theorised, integrated, flexible and effective. The theoretical underpinnings of the EXIT model are essentially two-fold: sociolinguistic and cognitive. The sociolinguistic deals with the *why* of the model, and the cognitive deals with the *how*. The sociolinguistic rationale comes from the Australian genre theorists (Wray and Lewis cite Derewianka, 1990, as a source) who argued not only that children should be encouraged to become aware of the linguistic and rhetorical features of different types of information text; they should also become aware of the intentions and social purposes of the authors of those texts.

Some of the cognitive theories underpinning the EXIT model have already been referred to, but it is worth reiterating how clearly many of the studies referred to are brought together in this part of the Strategy. Wray and Lewis carried out a survey at the start of their project, and found that only one out of more than a hundred teachers surveyed mentioned teaching children about more than one non-fiction text type, and the EXIT model set out to give teachers and their pupils a richer set of structures to guide both reading and writing. In advocating a systematic approach to teaching the writing of non-fiction in the junior school, they drew upon the work of genre theorists to identify a set of text types, which are linked to writing frames. But writing frames are not simply templates for writing – Wray and Lewis advocated teaching about writing frames in a way that integrated reading, writing and discussion work, and that treated learning as a social process. Their approach is well theorised, both at the macro and micro level. At the micro level, the teaching approach borrows heavily from the reciprocal teaching model of Palinscar and Brown (1984) that had been so influential in the US, but also uses the KWL question grid (Ogle, 1986), encourages self-monitoring and self-regulation, the development of metacognitive activity, careful use of teacher scaffolding and other supports for learning that are strongly supported by research.

Just as importantly, at the macro level, the Strategy argues for integration of all these activities around purposeful, authentic learning tasks, and this too has strong support from research

(CELA, 2001). Two studies that might be mentioned here are those of Nystrand, Gamoran, and Carbonaro (1998) and of Guthrie et al. (1995). Nystrand, Gamoran, and Carbonaro studied over 100 ninth-grade English and social studies classrooms, and found that growth in writing achievement across the school year was positively related to the degree of coherence among classroom reading, writing and discussion activities. The more closely these activities were integrated, the larger the growth in measured writing ability over the year. Guthrie et al. (1995), in a series of studies on the reading achievement of nine-, thirteen-, and seventeen-year-olds, also emphasised the importance of connectedness between strategy instruction and larger meaning-making activities. This research suggested that teachers who constructed a strong integrating framework incorporating cognitive strategy learning and discussion produced significant increases in the amount and breadth of student reading.

For those who might wish to read more on the value of integrated strategy instruction, a scholarly, profound, and very readable web-based research report from the US National Research Center on English Learning & Achievement that draws upon nearly 400 research studies is well worth consulting. [Go to http://cela.albany.edu, and follow links to *A sociological perspective*]

Further influential support for the teaching of technical aspects of writing in meaningful contexts comes from the QCA publication *Improving Writing at Key Stages 3 and 4* (QCA, 1999). Drawing upon the Technical Accuracy Project, a three-year enquiry into the linguistic features of writing that tended to be associated with achievement in English at different grades at GCSE level, the report encourages teachers to engage in more explicit teaching of such features, but also gives advice as to how best this should be accomplished:

> Pupils' understanding of metalinguistic concepts is enriched if they are given opportunities to explore linguistic features in meaningful contexts. (QCA, 1999, p. 28)

The report goes on to give examples of this pedagogy in practice, drawn from teachers' records of how they integrated the teaching of such features into their curriculum planning.

7 SPEAKING AND LISTENING – DOES RESEARCH SUPPORT THE STRATEGY?

Speaking and Listening – has the Strategy got it right?

From a research point of view, a major emphasis on Speaking and Listening in literacy development is absolutely warranted. As Jerome Bruner has reminded us, oral texts are the keys that unlock the imagination; it is the narratives and action-scripts that infants create that form the building blocks of literacy, and therefore what is spoken, and respect for what is spoken, are absolutely critical in literacy development (Bruner, 2000).

Equally, the incorporation of speaking and listening into text level objectives makes good sense in relation to the arguments about the importance of integrating language modes, and developing a coherent literacy curriculum. As we have already noted, discussion is fundamental to reciprocal teaching, to DARTs, and to the EXIT model. Explaining, questioning, encouraging critical thinking, encouraging self-directed activity, challenging and evaluating are all directly recommended in the *Framework*, and research has provided us with some pointers as to the conditions under which discussion is likely to lead to improved learning. Alvermann's (1999) cross-curricular study showed that high school students had better discussions that led to better learning when they were involved in task construction, had shared expectations among group members, and were not in too large a group.

Teachers believe that they give prominence to discussion, but classroom research may not support this belief. One of the largest studies of classroom discourse ever undertaken – Nystrand and Gamoran (1991) – discovered that discussion was one of the rarest of activities in English lessons – on average less than a minute a day in the classes they studied. But the crucial point was that it nonetheless accounted for significant gains in students' achievement in literature as measured by tests assessing recall, depth of understanding, and response to aesthetic elements of literature (reported in CELA, 2001).

Again, the implication is clear: real discussion is more likely to take place when there is an authentic task and a reason to communicate. It is therefore worth setting up discussion carefully, and relating it to an important learning goal. Under such conditions, whatever the subject, discussion is much more likely to lead to worthwhile and sustained learning.

8 HELPING PUPILS WHO HAVE FALLEN BEHIND – DOES RESEARCH SUPPORT THE STRATEGY?

Supporting pupils who have fallen behind is crucial, and the hundreds of pages of Additional Literacy Support material for primary schools and of the Key Stage 3 Literacy Progress Units provide strong evidence of the government's determination to help those pupils to catch up with their peers.

The Key Stage 3 Literacy Progress Units focus on a list of 'critical features' which, we are told, 'move pupils on to level 4' (DfEE, 2001b). These include 'using full stops, capital letters and commas accurately in longer sentences', 'varying sentence structure', and 'applying knowledge of spelling rules'. This list sounds like a rather instrumental approach to literacy improvement, one that is based more on an artificial attempt to enhance pupils' scores on the government's own tests than on the need to motivate and enthuse those who have not made a good start in literacy. At this point we should remind ourselves that it was reciprocal teaching, emphasising careful development of self-regulated strategies, and not a direct focus on skills, that was shown by research to be most effective for poor readers. In this respect, therefore, the activities within the Literacy Progress Units seem to hold out more promise, since they do have higher level goals (e.g. organising and shaping writing effectively; getting pupils applying a knowledge of phonics in their own writing; having a repertoire of sentence structures and using them effectively). We also have a good deal recent UK research on how best to support those who have fallen behind, and the remainder of this section draws upon an article reviewing these studies (Harrison, 2000).

A meta-analysis of Reading Recovery studies (Clay, 1995), and of approximately 50 more (many of which were too descriptive to be capable of inclusion in the meta-analysis) was undertaken by Brooks et al. (1998). In some respects it is difficult to generalise from the evaluations of Reading Recovery in the UK. All of the 21 local authorities in which Reading Recovery was implemented produced an evaluation report, but many were descriptive, and did not report outcome measures. The most comprehensive evaluation (Sylva and Hurry, 1995), however, did use standardised tests. The evaluation showed Reading Recovery to be expensive, but effective. A very important finding of the study was that the alternative treatment groups, which had been given a sustained programme to develop phonological awareness, made only modest progress. The clear implication from the Sylva and Hurry study is that, while phonological awareness may be a good predictor of future success in reading, interventions for poor readers which focus on phonological awareness alone will have very limited success.

A very similar conclusion was drawn by Hatcher et al. (1994) in their study in Cumbria. This study had three experimental groups and one no-treatment control group, with 31 seven-year-old children in each group. The treatments were a 'phonology alone' programme, a 'literature and phonology' programme, and a 'literature alone' programme. Controls to minimise differences attributable to teacher's style and other unintended interactions were exemplary, and the results were dramatic: the 'literature and phonology' group showed significant gains in word reading, reading accuracy and reading comprehension. Just as importantly, neither of the other treatment groups showed any significant gains over the normal schooling group. Hatcher (1994) argues that there is a powerful interaction effect when phonology and literature are taught together, and that this was what made the mixed programme effective. The mixed programme was modelled on Marie Clay's (1995) procedures, but included plenty of real books, and additional phonological activities.

Brooks et al. (1998) drew the following conclusions from their meta-analysis of interventions to help those at risk from reading failure:

- Normal schooling ('no treatment') does not enable slow readers to catch up.
- Work on phonological skills should be embedded within a broader approach.
- Children's comprehension skills can be improved if directly targeted.
- Working on children's self-esteem and reading in parallel has definite potential.

- Approaches using Information Technology (such as Integrated Learning Systems) only work if they are precisely targeted.
- Large-scale schemes, such as the Basic Skills Agency Family Literacy project (Brooks et al., 1996), and Reading Recovery, though expensive, can give good value for money.
- Where reading partners are available and can be given appropriate training, partnership approaches can be very effective.

The key question that remains is – does the Strategy's approach exemplify these principles? Broadly speaking, the answer is positive, in that all the elements are present, and teachers are encouraged to integrate them. Critics who claim that the structure of the Strategy is potentially fragmentary are justified. There are enormous challenges for teachers whose task is to construct a coherent curriculum from the units, but equally, and crucially, on my reading of the research, the elements are the right ones, and the encouragement to teachers to implement is appropriate. What is needed to bring all the elements together is professional skill, implemented by a teacher who understands the theory, who is familiar with the range of approaches, and who has been supported in developing the confidence to use the Strategy with pupils in a responsive and flexible manner.

9 CODA

Changing literacy standards is not a skills issue: it is a systems issue. In 1999, Judith Langer of the US National Research Center on English Learning & Achievement (2001) published the results of a five-year study of 25 schools (including many that served predominantly poor districts), 14 of which had high standards of students' writing and school achievement. What she found was that every school that was performing better than comparable ones in the same district exhibited six characteristics. These schools were: 1) coordinating efforts to improve achievement, 2) fostering teacher participation in professional communities, 3) creating activities that enabled teachers to be agents rather than objects within the system, 4) valuing commitment to professionalism, 5) engendering caring attitudes, and 6) fostering respect for learning.

Overall, the teachers Langer studied in schools that were beating the odds were in touch with their students, their profession, their colleagues, and society at large. And they used these differing contexts to gain knowledge and sensitivity to shape their curriculum, instruction, and assessment efforts in societally responsive ways that worked for their students. They did not take a curriculum off the shelf and apply it to their students uncritically – they used the fairly tightly organised curriculum of the state flexibly, confidently, and where appropriate, critically, working in a system that respected their professionalism and encouraged its continued development. The research literature suggests that such an approach takes time, but it is the most likely one to lead to improvement. If we want to create skilled, confident, independent and adaptable pupils, they need to be taught by skilled, confident, independent and adaptable teachers.

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Sanctuary Buildings
Great Smith Street
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SW1P 3BT

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